

APPLICANT(S): BIEBER, Avigdor et al.  
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## **REMARKS**

Applicants respectfully request reconsideration of the above-identified application in view of the foregoing amendments and following remarks.

### **Status of Claims**

Claim 7 has been cancelled herein without prejudice. Claims 13-23 and 27 were previously canceled. Accordingly, Claims 1-6, 8-12, and 24-26 remain pending in the application. Claims 1 and 3 have been amended. Applicants assert that no new matter has been added.

## **CLAIM REJECTIONS**

### **35 U.S.C. § 103 Rejections**

In the Final Office Action, the Examiner rejected Claims 1-12 and 24-25 and 27 under 35 U.S.C. § 103(a), as being unpatentable over Teng (US 6,242,156) in view of Crawford et al. (US 4,430,366).

The Examiner rejected Claims 1 and 26 under 35 U.S.C. § 103(a), as being unpatentable over Teng (US 6,242,156) in view of Crawford as evidenced by Nishida et al. (US 5,417,164).

Applicants have amended Claim 1 to include "wherein the concentration ratio of the metal to metal oxide within the laser-absorbing layer is higher than the concentration ratio of the metal to metal oxide at both edges of the laser-absorbing layer so that less laser energy is needed for ablating the laser-absorbing layer than what would be needed for ablating a laser-absorbing layer without a gradient of concentration ratios". Support for the amendment can be found at least at page 8, lines 20-24 which recites:

"The ratio between the concentration of the metal and the concentration of the metal-oxide may vary continuously throughout the layer, thus creating a gradient solid dispersion layer. Such a construction of the laser-absorbing layer may improve the sensitivity of the printing member in comparison to conventional printing members having a metal layer as explained hereinbelow."

Additional support can be found at page 9, lines 6-9, which recites:

"The structure of the laser absorbing layer according to some embodiments of the present invention may accelerate the imaging process and may improve the sensitivity of the printing plate to the laser energy. Therefore, a printing plate structured according to some embodiments of the present invention may be exposed by a lower energy and/or may be exposed for shorter period of time than a standard printing plate" and further at page 9, lines 24-26, which recites: "Alternatively, the concentration of the metal may be higher in the middle of layer 104 while the concentration of the metal-oxide may be higher at both edges of layer 104, namely, at the top close to coating layer 15 and at the bottom close to base layer 102".

Applicants respectfully assert that the combination of Teng and Crawford, does not teach or suggest at least "wherein the concentration ratio of the metal to metal oxide within the laser-absorbing layer is higher than the concentration ratio of the metal to metal oxide at both edges of the laser-absorbing layer so that more

energy is absorbed from the laser than what would be absorbed without a gradient of concentration ratios".

In the Office action, the Examiner has rightly stated that Teng fails to teach that the radiation-sensitive layer comprises a gradient solid dispersion of metal-metal oxide. Teng teaches to have an optimal printing plate by roughening the surface of the plate. It is respectfully submitted that applying Teng's teaching to Crawford's vapor deposition would not result in the claimed gradient.

The Advisory action states that the concentration ratio is a function of oxygen control. Although the Crawford reference teaches oxygen control, it does not teach oxygen control for needing less energy for ablation. Further, Crawford does not teach or suggest a metal/metal oxide layer with a gradient such that the "concentration ratio of the metal to metal oxide within the laser-absorbing layer is higher than the concentration ratio of the metal to metal oxide at both edges of the laser-absorbing layer".

Therefore, the disclosures of Teng and Crawford alone or in combination do not render amended Claim 1 obvious. It is respectfully submitted that the Nishida et al. reference (US 5,417,164) cannot cure the deficiencies of the combination of the Teng and Crawford disclosures since it is not directed to a metal/metal oxide combination in a laser ablatable layer.

The Advisory Action states:

*"...It would have obvious to one of ordinary skill in the art to use the aluminum/aluminum oxide composition of Crawford in the radiation-sensitive layer of Teng because the aluminum/aluminum oxide composition provides good adhesion of the substrate to*

*the radiation-sensitive layers as taught by Crawford  
(cot. 1, lines 58-67 and col. 2, lines 1-3"*

In fact, Applicants respectfully assert that a person skilled in the art would actually expect that more energy would be required to ablate a layer having strong adhesion with the substrate than that required to ablate a layer having weaker adhesion to the substrate.

Therefore, the recitation "wherein the concentration ratio of the metal to metal oxide within the laser-absorbing layer is higher than the concentration ratio of the metal to metal oxide at both edges of the laser-absorbing layer so that less energy is needed for ablating the laser-absorbing layer than what would be needed for ablating a laser-absorbing layer without a gradient of concentration ratios" is not obvious and is an unexpected feature to one skilled in the art. A skilled person would expect that more energy is needed in order to overcome the stronger adhesion, not less energy.

For this reason, the cited prior art, individually and collectively teach away from needing less energy for ablation since it would be expected that strong adhesion requires more laser energy to ablate. Claim 1 specifically recites this unexpected and distinguishing feature.

For the foregoing reasons, Applicants' invention is patentable over the cited art and Applicants respectfully request that the rejections of the claims under 35 U.S.C. § 103(a) be withdrawn. Such action is respectfully solicited.

## **CONCLUSION**

In view of the foregoing, Applicants submit that the pending claims clearly distinguish over the prior art of record and are in

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condition for allowance. Favorable consideration and passage to issue of the present application is therefore respectfully requested.

The Examiner is invited to telephone the undersigned to discuss any still outstanding matters with respect to the present application.

Please charge or credit any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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